



Woodsmith[®] PLANS

CHERRY CONSOLE



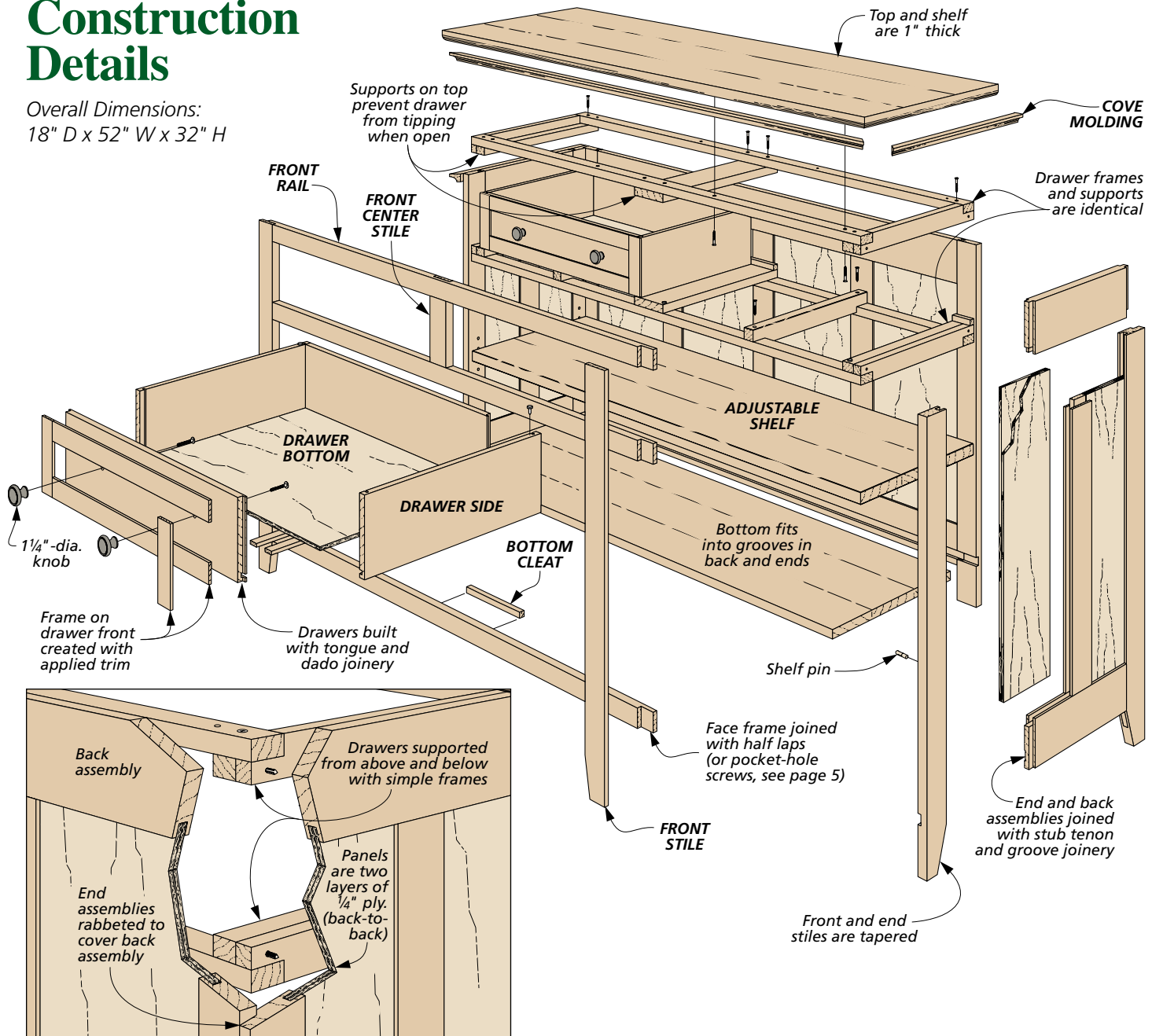
CHERRY CONSOLE

Basic frame and panel assemblies, a fast face frame, and easy-to-build drawers — this cherry console table is a perfect opportunity to try a variety of woodworking techniques.



Construction Details

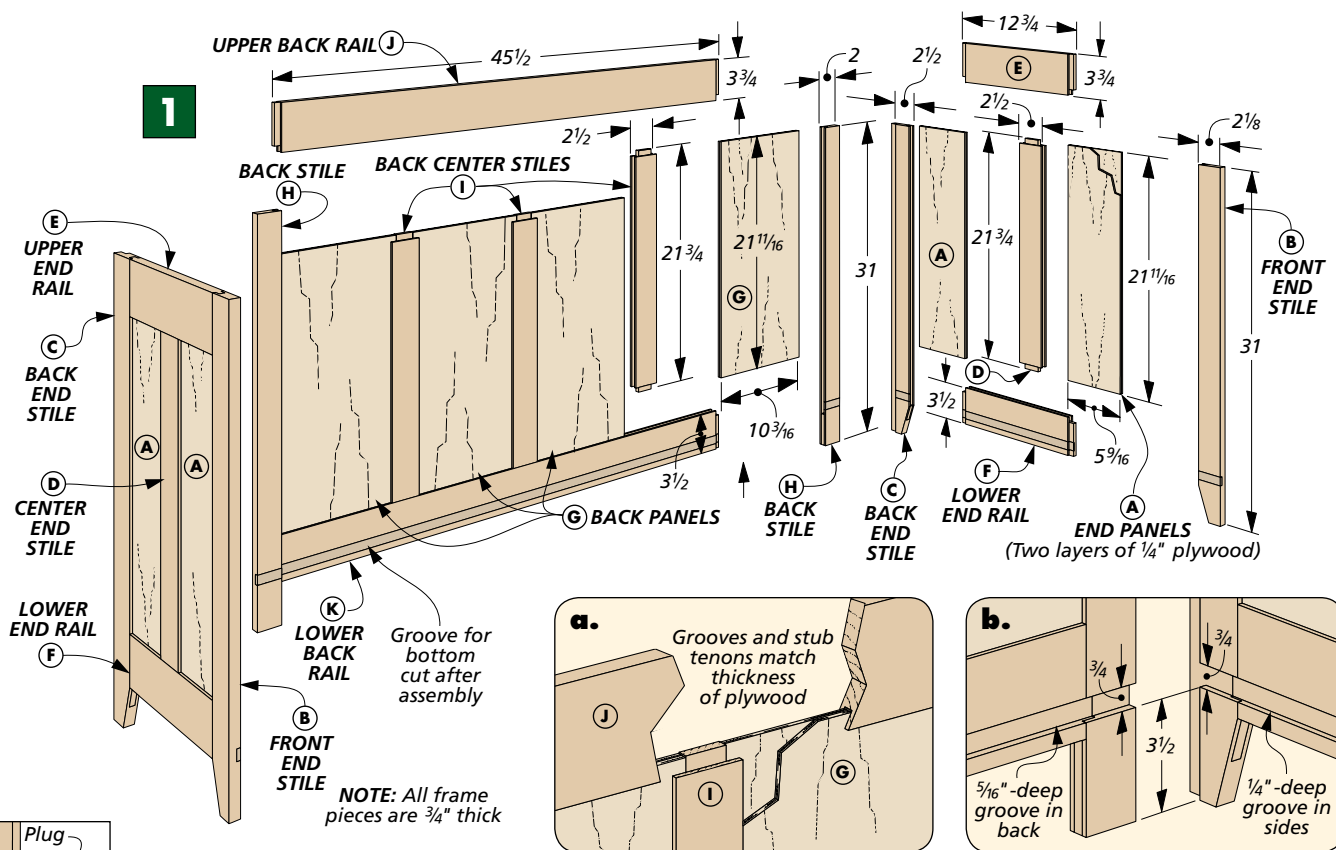
Overall Dimensions:
18" D x 52" W x 32" H



MATERIALS & SUPPLIES

A End Panels (8)	1/4 ply. - 5 9/16 x 21 11/16	N Front Center Stile (1)	3/4 x 2 - 83/8	AA Drawer Stops (4)	1/2 x 1 1/16 - 8 rgh.
B Front End Stiles (2)	3/4 x 2 1/8 - 31	O Bottom (1)	3/4 x 15 1/16 - 48 1/2	BB Adjustable Shelf (1)	1 x 15 1/8 - 47 7/8
C Back End Stiles (2)	3/4 x 2 1/2 - 31	P Bottom Cleat (1)	1/2 x 1/2 - 6	CC Top (1)	1 x 18 - 52
D Center End Stiles (2)	3/4 x 2 1/2 - 21 3/4	Q Frame Cleats (4)	3/4 x 1 1/2 - 15 1/4	DD Cove Molding	3/4 x 3/4 - 90 rgh.
E Upper End Rails (2)	3/4 x 3 3/4 - 12 3/4	R Frame Stretchers (4)	3/4 x 1 1/2 - 48		
F Lower End Rails (2)	3/4 x 3 1/2 - 12 3/4	S Outer Dwr. Supports (4)	3/4 x 1 1/8 - 15 1/4		
G Back Panels (8)	1/4 ply. - 10 3/16 x 21 11/16	T Inner Dwr. Supports (2)	3/4 x 3 1/2 - 15 1/4		
H Back Stiles (2)	3/4 x 2 - 31	U Drawer Fronts/Backs (4)	1/2 x 5 1/4 - 21 1/8		
I Back Center Stiles (3)	3/4 x 2 1/2 - 21 3/4	V Drawer Sides (4)	1/2 x 5 1/4 - 15		
J Upper Back Rail (1)	3/4 x 3 3/4 - 45 1/2	W Drawer Bottoms (2)	1/4 ply. - 14 1/2 x 21 1/8		
K Lower Back Rail (1)	3/4 x 3 1/2 - 45 1/2	X Drawer Trim	3/16 x 1 1/2 - 100 rgh.		
L Front Stiles (2)	3/4 x 2 - 31	Y Drawer Guides (4)	1/4 x 3/4 - 14		
M Front Rails (3)	3/4 x 1 1/2 - 48	Z Drawer Runners (2)	1 x 1 1/2 - 15 1/4		

- (24) #8 x 1 1/4" Fh Woodscrews
- (8) #8 x 1 1/2" Fh Woodscrews
- (3) #8 x 2" Fh Woodscrews
- (8) Plastic Stem Bumpers
- (4) #8 x 1 1/2" Rh Woodscrews
- (4) #8 Washers
- (4) 1/4" Spoon-style Shelf Supports
- (4) 1 1/4" x 1" Ring Knobs (Bronze)



End & Back Assemblies

Before getting started, it's always a good idea to familiarize yourself with how a project goes together. This cherry console table isn't complicated at all. It starts out with three frame and panel assemblies that join to form the ends and back of the case. Later, you'll add a face frame and a bottom panel, but there's nothing tricky about this.

As I mentioned, the back and end assemblies are built first. This is mostly just cutting stub tenons and grooves, but instead of cutting the frame pieces to size first, it's best to start with the panels.

PANELS. Figure 1 indicates that the panels are made out of 1/4" plywood.

This way, they won't expand and contract, and you won't have to edge glue a lot of panels. The problem is most 1/4" plywood only has one good side, and with the open design, I wanted the panels to look good outside and in. So for each panel, I glued two pieces of 1/4" plywood back-to-back. The box at the bottom of page 4 will walk you through how you can do this quickly and efficiently.

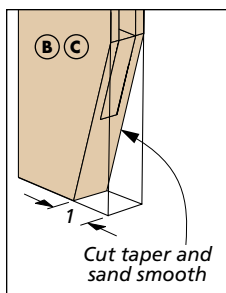
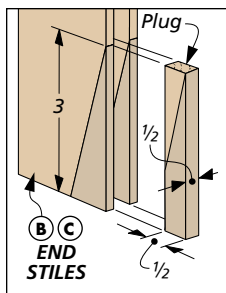
STILES & RAILS. The stiles, center stiles, upper rails, and lower rails are all cut to finished size from 3/4"-thick stock, as you can see in Figure 1.

The first thing to do is cut the grooves on all the pieces (Figure 2). They're sized to hold the double-

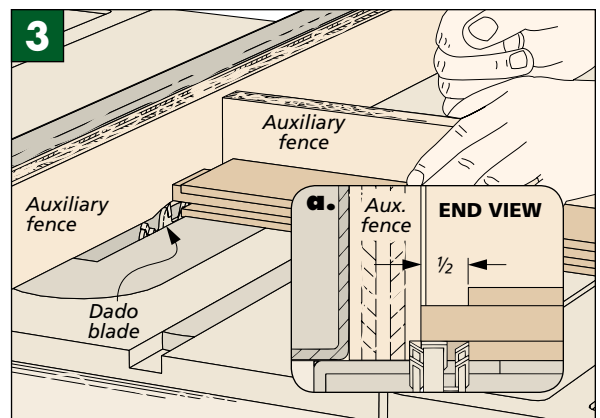
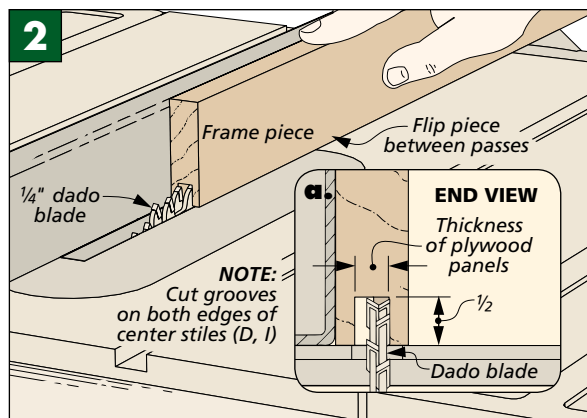
layered panels, so I used a 1/4" dado blade setup and centered the grooves by flipping the pieces end-for-end between passes. You'll want to sneak up on the position of the fence so the plywood just fits the grooves. And keep in mind that the grooves are cut on both edges of the center stiles.

Next, the stub tenons can be cut on the ends of the rails and center stiles, as in Figure 3. Like the grooves, it's quicker to use a dado blade (this time with an auxiliary fence). And again, you want to sneak up on the cut so the tenons fit the grooves.

Before these pieces can be assembled, there's a little work to do on the bottom of the end stiles.



▲ To hide the groove at the bottom of the end stiles, it's best to add a short plug before you cut the taper.

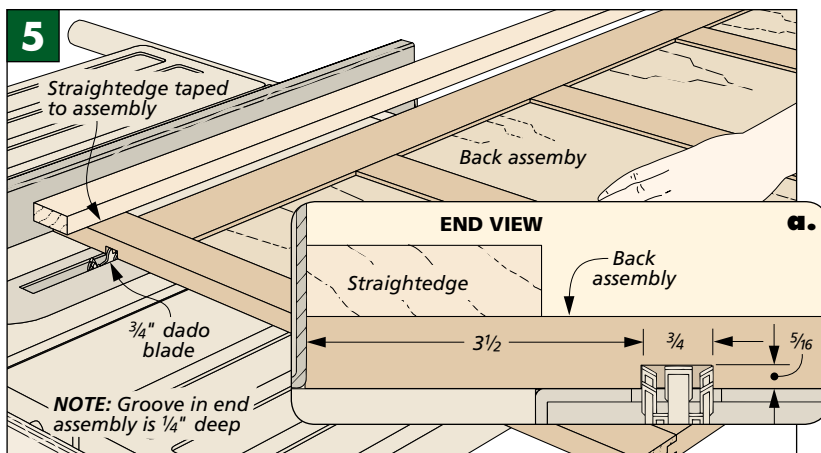
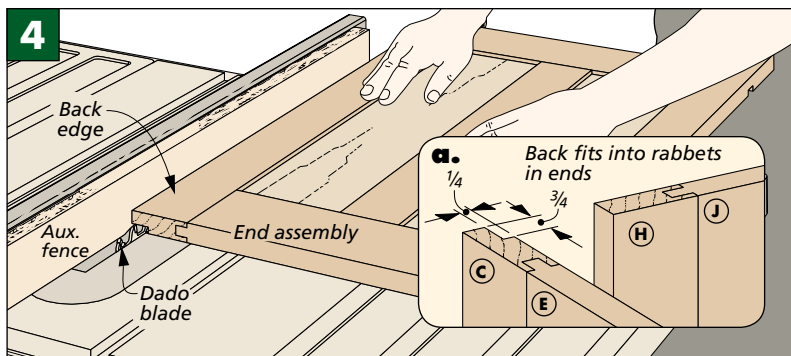


First, I cut some plugs to glue into the grooves, as shown in the upper margin drawing on the previous page. Then the end of the stile can be tapered, as in the lower margin drawing. (I did this with a band saw, but you can also use a hand saw.)

Once the tapers have been cut and sanded smooth, the ends can be assembled. This is pretty straightforward. Just make sure the frame stays flat and the pieces are flush across the top. When both ends are assembled, you can go ahead and put the back together.

There are still a couple of steps to complete before you can move on to the face frame in front. The first thing I did was cut a rabbet on the back stile of the end assemblies (Figure 4). This 1/4"-deep rabbet is sized to wrap around and cover the edge of the back assembly (Figure 4a).

At this point, the next thing to do is to cut a groove near the bottom of each assembly. These will hold the bottom panel later, so it's important they all line up (Figure 1b). Note that the grooves aren't the same depth. The ones on the ends are 1/4" deep, but the groove on the back is a little deeper (5/16") so the bottom panel can expand into the groove.



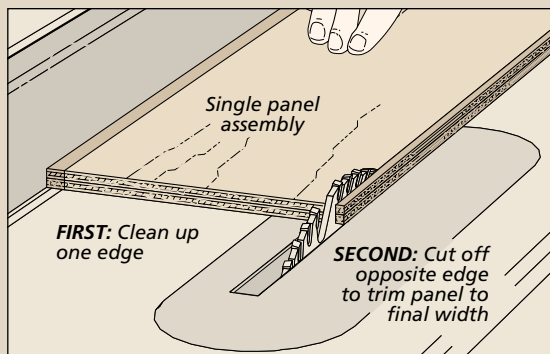
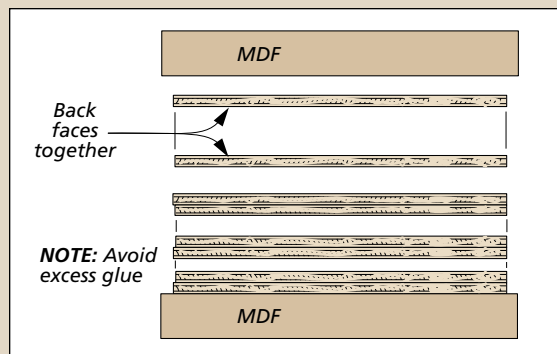
I figured the table saw is the best way to keep the grooves aligned, but with the "feet" on the bottom of the assemblies, you can't run the bottom edge against the rip fence. To get around this, attach a straightedge to

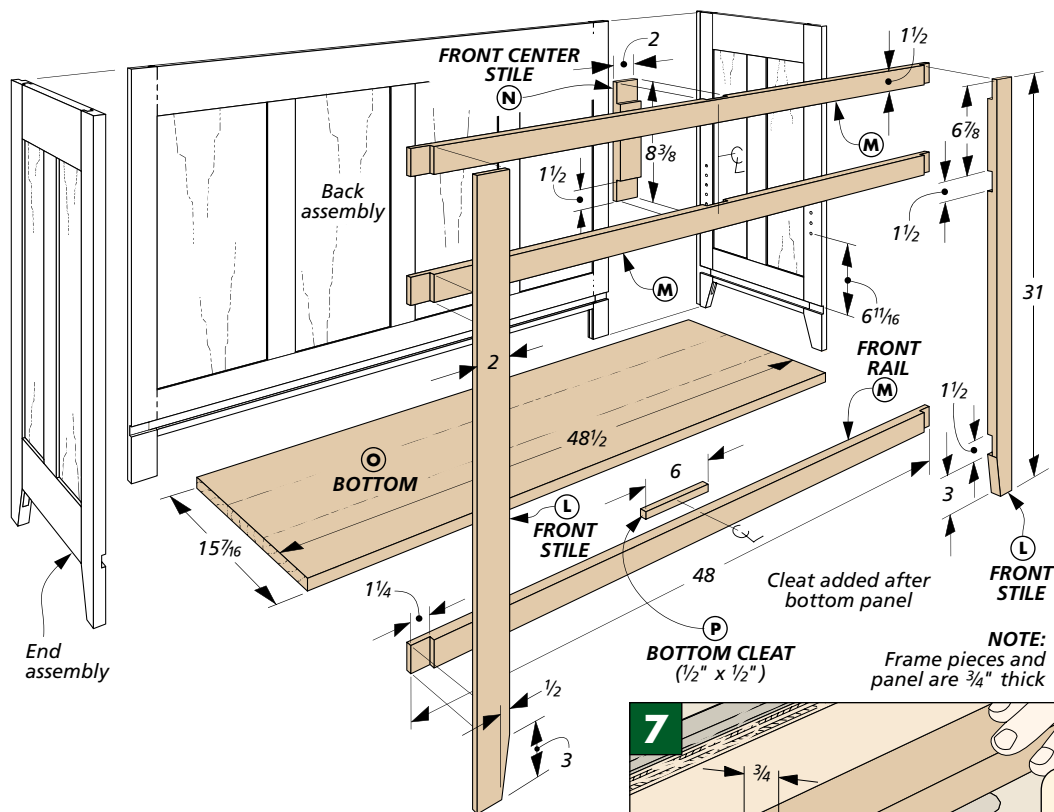
the bottom of each assembly, using double-sided tape to hold it in place, as in Figure 5. The thing you'll want to concentrate on is keeping pressure down on the assembly so the groove is a consistent depth.

QUICK PANEL GLUE-UPS

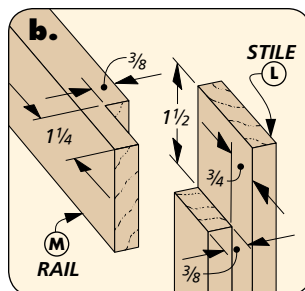
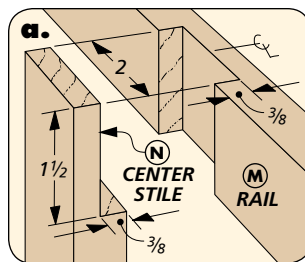
This console requires a lot of 1/4" plywood panels that are glued up back-to-back. Rather than glue each pair separately, I glued up each set of panels at the same time, as in the left drawing below. And to help distribute the clamping pressure evenly, I sandwiched the panels between pieces of 3/4" MDF.

When gluing the pairs together, you'll want to avoid using too much glue. (You don't want a lot of squeezeout.) And try to keep the edges of the panels lined up as much as possible. It'll make it easier when you trim them to final size, as illustrated in the right drawing. (I trimmed each panel separately.)





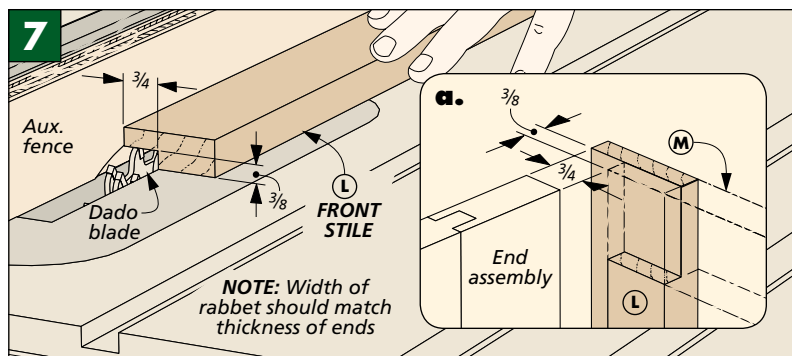
6



Face Frame

With the end and back assemblies complete, the next section to build is the front face frame. If you take a look at Figure 6 above, you'll see that this frame creates the openings for the two drawers as well as the adjustable shelf.

You've probably noticed by now that the face frame is joined with half laps. Unlike a mortise and tenon joint, both pieces are cut with basically the same setup. But there is an even quicker way to build this frame — with pocket-hole screws, as described in the box below. Just



keep in mind that this will change some of the dimensions.

STILES. To make the face frame, I first cut just the front stiles to size, as illustrated in Figure 6. Then on the outside edge, I cut a rabbet that will wrap around the end panels, as you can see in Figures 7 and 7a.

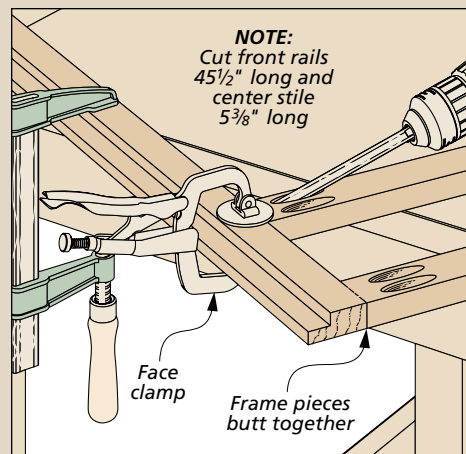
RAILS. Now you're ready to cut the front rails to finished size. Usually with half-lap joints, the rails would extend the full length of the case. But instead of reaching to the outside edges of the stiles, these rails stop at the rabbets, as you can see in Figure 7a. So the rails end up 1 1/2" shorter

FAST FACE FRAMES WITH POCKET-HOLE JOINERY



Pocket-hole joinery is quick — it's designed specifically for building face frames (like the one for this console). And the procedure couldn't be any simpler. The frame pieces are cut to length so they butt together. Then you drill some angled holes, as shown in the photo at left. Finally, the pieces are clamped together and secured with screws, as illustrated in the drawing at right.

To build this face frame with pocket screws, you're going to need a drilling jig, some self-tapping screws, and a special stepped drill bit. (A face clamp is also handy for holding the faces of the pieces flush.)



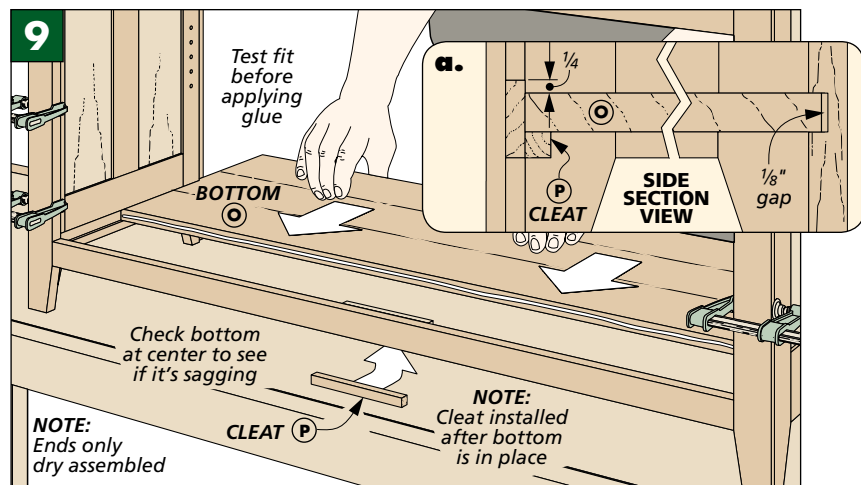
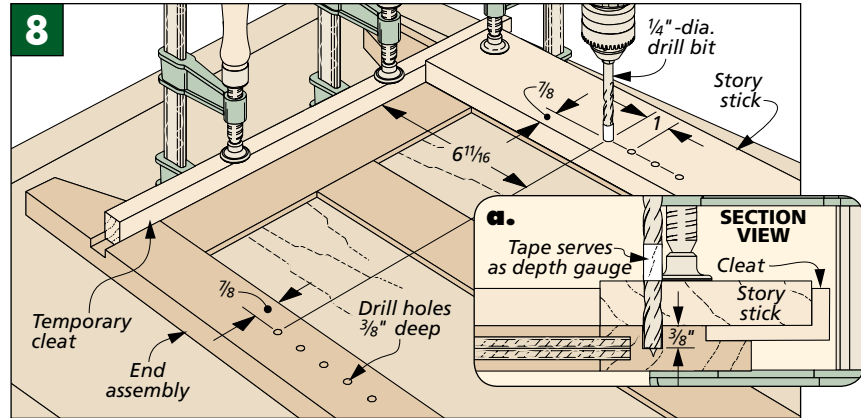
than the length of the case. (My front rails were 48" long.)

The other piece to cut at this point is the center stile. Then you can begin the process of cutting the half laps that join the face frame, as in Figures 6a and 6b. Just keep in mind that the half laps on the ends of the two upper front rails are cut on the opposite face as the one in the center. (I learned this the hard way.)

BOTTOM. After the half laps are cut and the front face frame is glued up, there are still a couple of things to do before the case can be assembled. First, I glued up a $\frac{3}{4}$ "-thick bottom, as in Figure 6. The panel is designed to be glued to the front rail and extend $\frac{3}{16}$ " into the groove in the back assembly, as in Figure 9a. (This will leave a $\frac{1}{8}$ " gap for the bottom to expand into.) As for its length, I didn't worry about leaving any gaps in the grooves in the end assemblies because the wood really won't expand along its length.

With the panel glued up and sized, the last thing to do is drill four sets of $\frac{3}{8}$ "-deep holes to hold some shelf pins. To make sure all the pins ended up level with each other, I used a simple "story stick." And as you can see in Figure 8, I put a temporary cleat in the groove for the bottom to set the story stick against.

CASE ASSEMBLY. At this point, you're ready to assemble the case (Figures 9 and 10). Normally, a case assembly like this can get a little frantic.



Not this one. It's glued up one section at a time, so you won't even need an extra pair of hands.

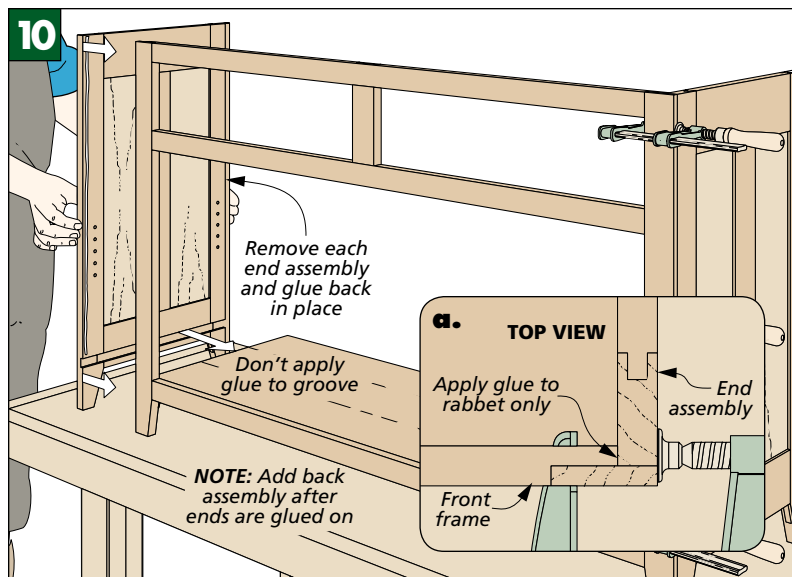
The first thing I did was to dry assemble the front face frame with the end assemblies, as in Figure 9. Then I slid the bottom panel in from the back to see how it fit. The thing to watch here is the center.

A panel this long can sag noticeably. So when you apply glue, you may need to force the panel up with hand pressure so it's level across its entire length. When I was satisfied with the fit, I pulled the bottom away from the front rail and applied a thin bead of glue. Then I slid it back in place and applied the clamps.

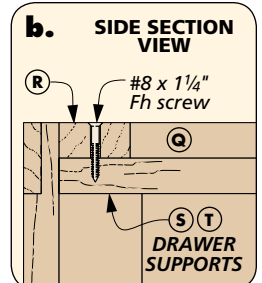
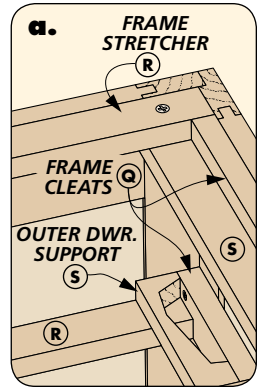
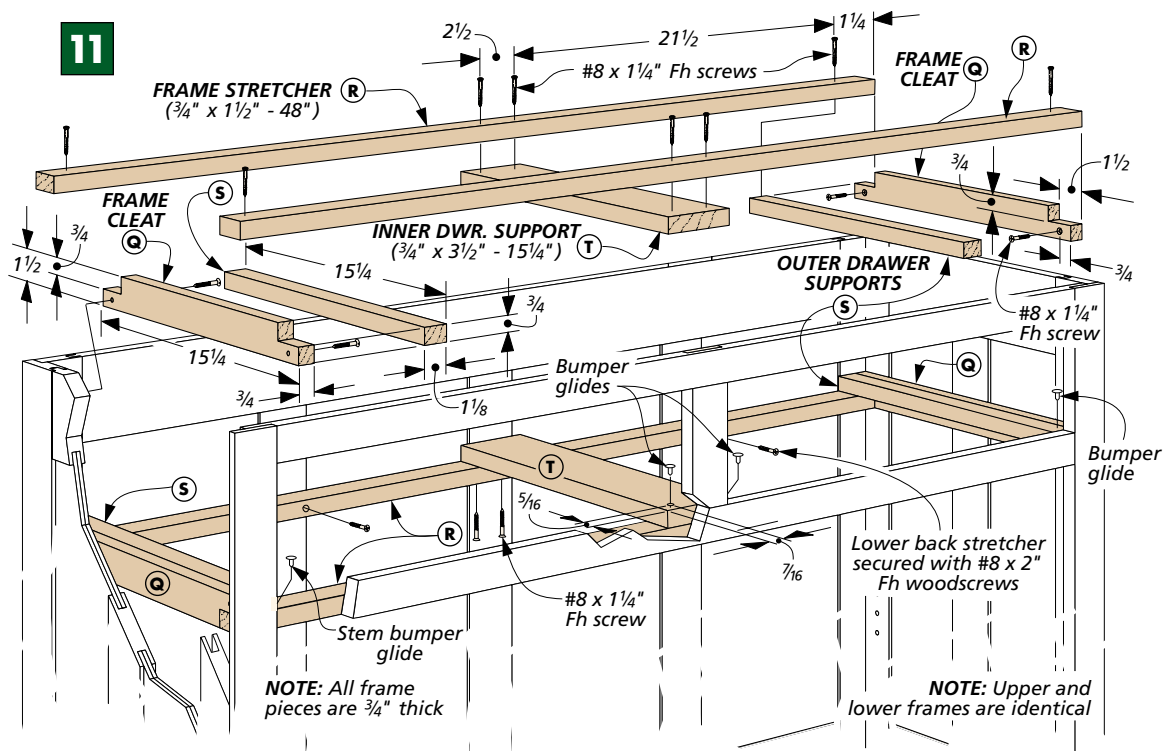
As the glue is drying, you can cut a small bottom cleat and glue it under the bottom to provide additional support, as shown in Figure 9.

When the glue is dry, you can glue the end panels in place — one at a time, as in Figure 10. Simply remove the clamps, apply some glue to the front edge, and clamp the assembly back in place. Just be sure you don't add glue to the groove for the bottom. The solid wood panel should be free to expand and contract.

The last section to add is the back. Again, the glue is applied to the ends, not the groove for the panel. In fact, there should be a little gap in back for the panel to expand into, as you can see in Figure 9a.



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Drawer Frames & Drawers

At this point, the case is assembled, but it's not ready for the two drawers quite yet. There isn't any way to support them inside the case. That's the job of the drawer frames that are added next, as shown in Figure 11.

These frames couldn't be any simpler to build. For one thing they're identical. And each frame starts out as two cleats and two stretchers that are added to the case one piece at a time. Then three drawer supports are screwed to each frame.

Two sets of frames are used because the drawer will ride on the bottom one. And the top frame keeps the drawer from tipping out as it's pulled open.

FRAME CLEATS. The pieces to start with are the four $\frac{3}{4}$ \"/>

The only thing to do to the cleats is to cut a notch on each end to hold the stretchers. And these notches are easy to create at the table saw. I set the cleats on edge (supported by an auxiliary miter gauge fence) and used a dado blade raised $\frac{3}{4}$ \"/>

Installing the frame cleats inside the case is no big deal either. As you

can see in Figure 12, the lower cleats should be positioned so they're flush with the bottom of the drawer opening. The upper cleats should be flush with the top of the drawer opening. You'll just want to make sure that the notches are oriented up on the upper cleats and down on the lower cleats.

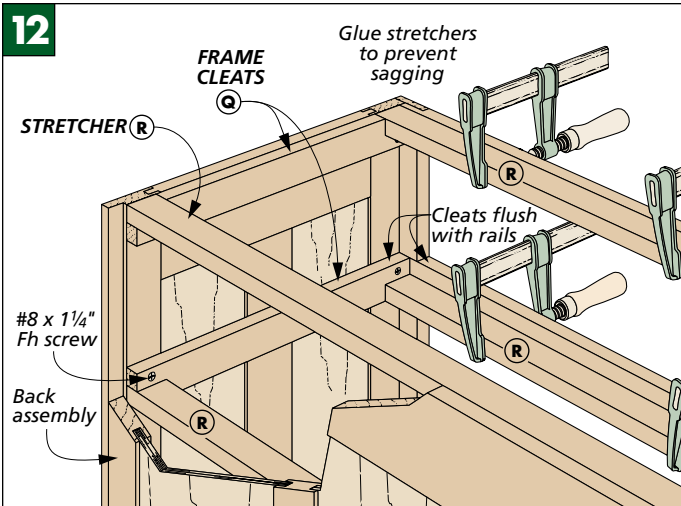
FRAME STRETCHERS. With the cleats in place, cut the frame stretchers to size. These span the length of the case and are sized to fit into the notches cut in the cleats.

To prevent these long stretchers from sagging in the center, I attached them to the case in addition to gluing them into the cleats. The lower back

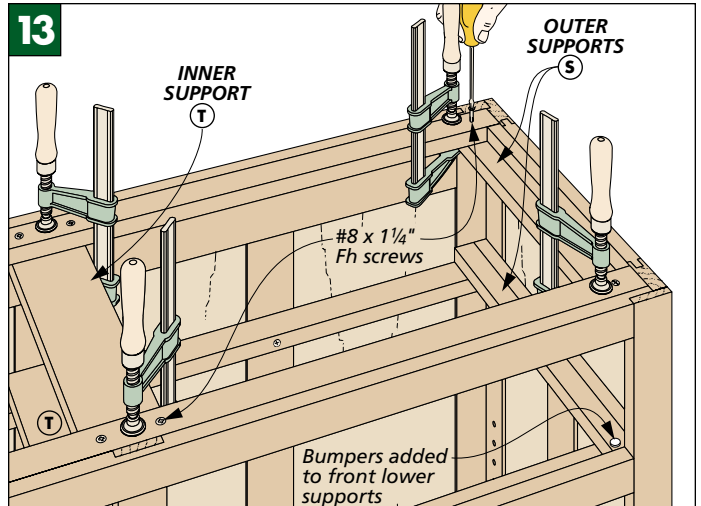


▲ Plastic "stem bumper glides" are added to the front of all the lower drawer supports (and top, back corners of the drawers) so the drawers slide in and out of the case smoothly.

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stretcher is glued and screwed into the center stiles, as shown in Figure 11. The others are glued and clamped to the rails (Figure 12).

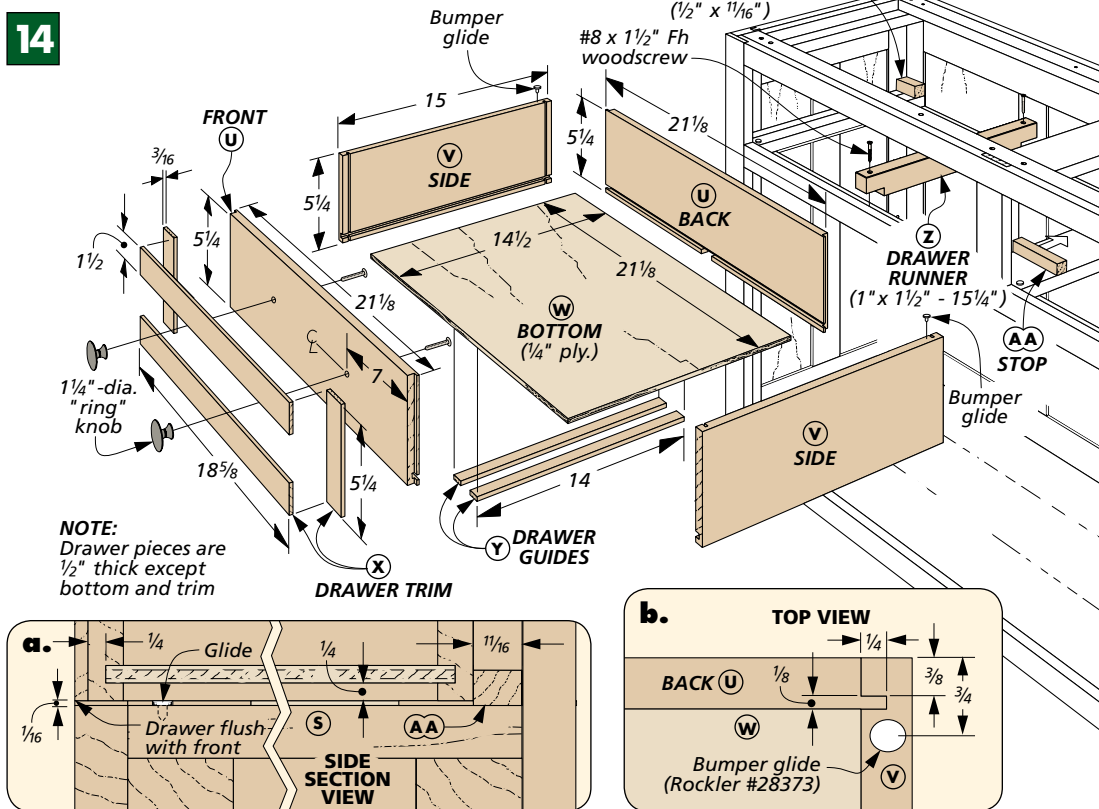
SUPPORTS. Now cut the four outer and two inner drawer supports to size (Figure 11). Before screwing the lower supports in place (Figure 13), I drilled some holes near the front and pressed in plastic stem bumper glides so the drawers will slide smoothly (margin photo, page 7).

DRAWERS. Like the rest of this project, I kept the drawers as simple as possible. The $\frac{1}{2}$ "-thick fronts, backs, and sides are cut to size so there's a $\frac{1}{16}$ " gap on each side of the drawer (Figure 14). And the pieces are joined with a tongue and dado joint. Dadoes are cut across the sides first. Then a matching tongue is cut on the ends of the front and back pieces. Finally a groove for a $\frac{1}{4}$ " plywood bottom is cut in all four pieces (Figure 14a), and the drawer can be glued together.

The drawer looks like there's a frame and panel on the front, but these are just $\frac{3}{16}$ "-thick pieces of applied trim that are cut to size and glued to the front of the drawer (Figure 14). Then add the knobs.

GUIDES & RUNNERS. To guide the drawers in the case, there are guides and runners to add. The two guides are sized to fit under each drawer bottom, as in Figure 15. (My guides ended up $\frac{1}{4}$ " thick.) When gluing these strips to the bottom of the drawer, I used a 1"-thick spacer (the

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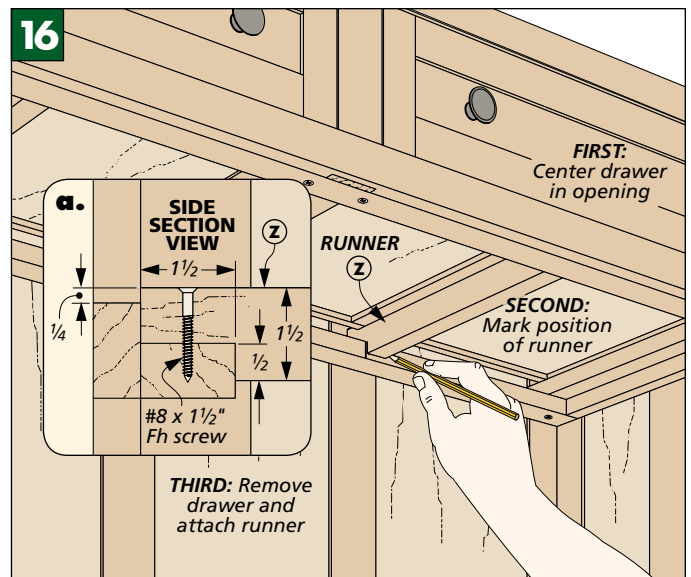
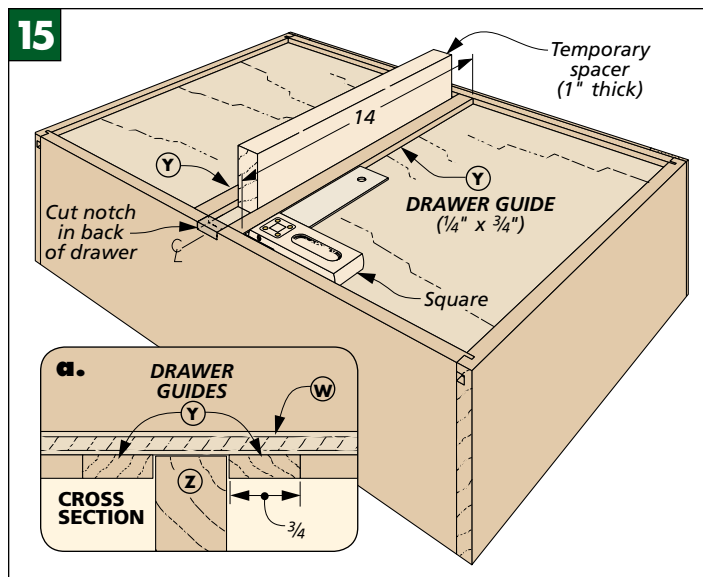


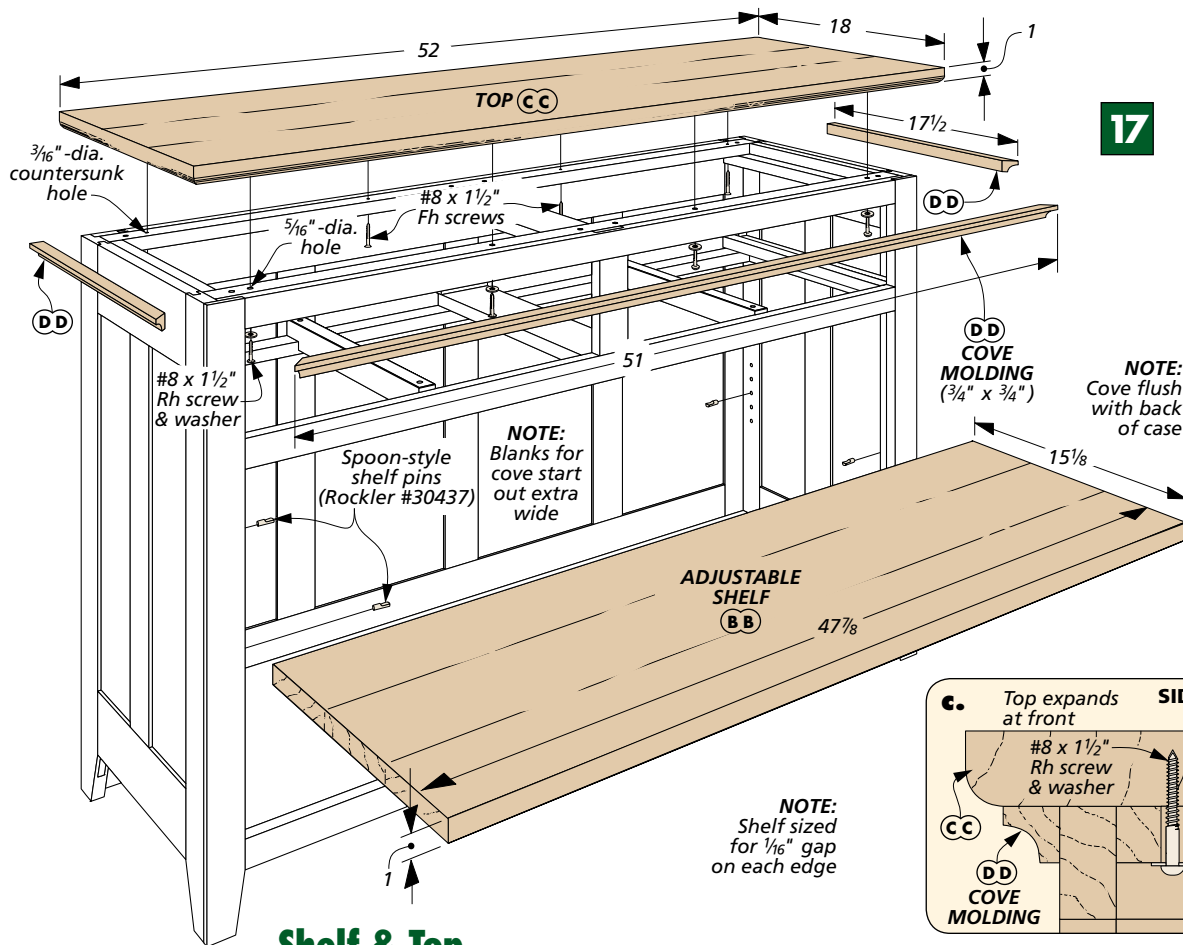
same thickness as the runner) and a square to position them. Then I cut a notch in the bottom edge of the drawer back and added bumper glides to the upper back corners (Figure 14b).

With the guides in place, make the runners that go in the case. These are 1"-thick pieces cut to length to fit in the case front to back. They have notches cut in them just like the frame cleats. But this time, you want the top of the cleat to stick up $\frac{1}{4}$ " above the front rail (Figure 16a).

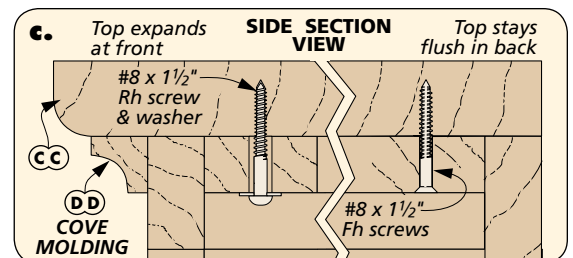
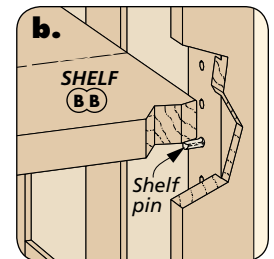
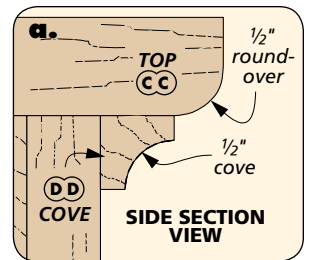
Installing each runner in the case is easier than you might think. I set it in place and slid the drawer over the top of it. When the drawer was centered in the opening, I reached under and marked the position of the runner (Figure 16). Attach it with screws and a stubby screwdriver.

The last thing to do is add stops to the back of the case. The goal here is simply to make sure the front of the drawer ends up flush with the front of the case (Figure 14a).





17



Shelf & Top

The console is pretty close to being complete. All that's left is to add the shelf, top, and some cove molding.

GLUE UP PANELS. The first thing I did was to glue up panels for the shelf and top, as shown in Figure 17. I decided to use 1"-thick stock here. The top looks better with a thicker edge. And the shelf has less of a tendency to sag in the center.

SHELF. The shelf is going to expand just like the bottom, so when sizing it, I allowed for a $\frac{1}{16}$ " gap at both the front and back. (There also has to be a $\frac{1}{16}$ " gap at each end so it will fit

over the spoon-style shelf pins that are shown in Figure 17b.)

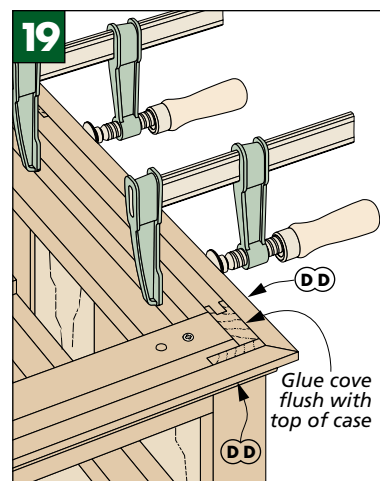
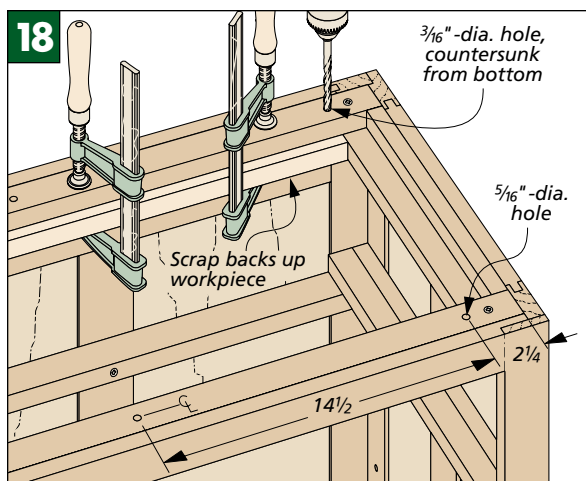
TOP. The top is sized to overhang the case $1\frac{1}{4}$ " at the front and each end. (It's flush with the back, as in Figure 17c.) And the lower, front edge and ends have a $\frac{1}{2}$ " roundover.

Before mounting the top, there are two things to do. First, drill shank holes in the frame stretchers (Figure 18). Note that I used different screws at the front and back. A flathead screw is used in the back to hold the panel flush with the case (Figure 17c). In the front, I drilled an oversized hole

and used a roundhead screw (and washer). This way, the panel can expand and contract at the front.

The second thing to do is add cove molding to the front and sides. (By doing this now, you don't have to put nails through the molding.) The molding has a $\frac{1}{2}$ " cove and is mitered to wrap around the case, flush with the top, as in Figure 19.

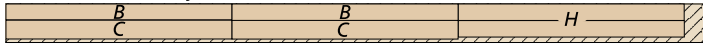
When you've sanded the molding flush with the case, you can apply the finish. (I used *Jel'd* stain and *Zar* cherry stain.) Then screw the top down, as shown in the photo below.



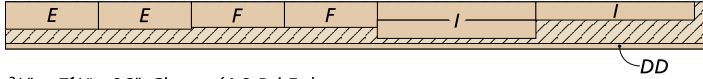
▲ To prevent the wide top panel from cupping, I applied several coats of finish to both faces before screwing it to the case.

CUTTING DIAGRAM

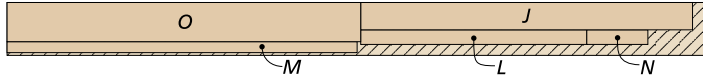
$\frac{3}{4}$ " x 5" - 96" Cherry (3.3 Bd.Ft.)



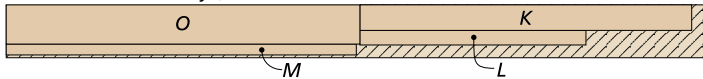
$\frac{3}{4}$ " x 6 $\frac{1}{4}$ " - 96" Cherry (4.2 Bd.Ft.)



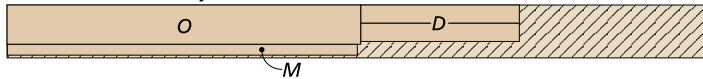
$\frac{3}{4}$ " x 7 $\frac{1}{4}$ " - 96" Cherry (4.8 Bd.Ft.)



$\frac{3}{4}$ " x 7 $\frac{1}{4}$ " - 96" Cherry (4.8 Bd.Ft.)



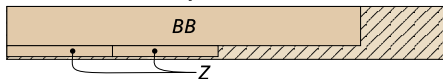
$\frac{3}{4}$ " x 7 $\frac{1}{4}$ " - 96" Cherry (4.8 Bd.Ft.)



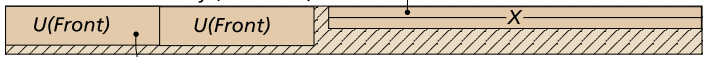
1" x 7 $\frac{1}{4}$ " - 96" Cherry (3 Boards @ 3 Bd.Ft. Each)



1" x 7 $\frac{1}{4}$ " - 60" Cherry (3 Boards @ 3 Bd.Ft. Each)



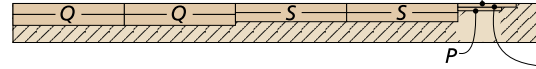
$\frac{3}{4}$ " x 6 $\frac{1}{4}$ " - 96" Cherry (4.2 Bd.Ft.)



Plane to $\frac{1}{2}$ " thickness

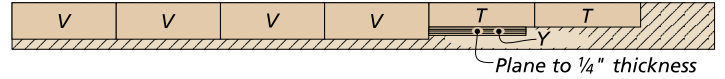
NOTE: The drawer fronts are cherry and the drawer backs are maple

$\frac{3}{4}$ " x 5" - 72" Maple (2.5 Bd.Ft.)



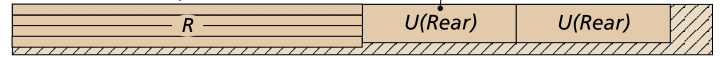
Plane both parts to $\frac{1}{2}$ " thickness

$\frac{3}{4}$ " x 6 $\frac{1}{4}$ " - 96" Maple (4.2 Bd.Ft.)



Plane to $\frac{1}{4}$ " thickness

$\frac{3}{4}$ " x 7 $\frac{1}{4}$ " - 96" Maple (4.2 Bd.Ft.)



Plane to $\frac{1}{2}$ " thickness

$\frac{3}{4}$ " x 48" - 96" Cherry Plywood

